

REMARKS

Claims 12 and 25 are amended. Claims 7-11 are cancelled. Claims 1-6 and 12-35 are pending in the application.

Claims 1, 7, 12 and 25 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time the application was filed. The Examiner states that the specification describes using a feed gas comprising 99.999% (by volume) of oxygen but does not describe feeding a feed gas in an absence of additionally added gases as recited in the claims. Applicant notes by direction to MPEP § 2163.02 that the standard for determining compliance with the written description is whether a claim defines an invention that is clearly conveyed to those skilled in the art at the time the application was filed. Applicant notes that the subject matter claimed "need not be described literally" for the disclosure to satisfy the description requirement. The standard for determining if the description requirement has been met is an objective standard based on what the description conveys to "persons of ordinary skill in the art". Based upon this objective standard, applicant's written description clearly conveys the recited providing a feed gas in an absence of additionally added gasses.

Applicant's specification as originally filed describes providing a feed gas to an ozone generator at, for example, page 4, line 14 through page 5, line 10.

The text at this location describes a feed gas comprising oxygen flowed into an ozone generator to form ozone. The description further states a feed gas purity of at least 99.999% O₂ (by volume). Additionally, the description at this location discusses the benefits of limiting a nitrogen content of the feed gas. Although the specification does not specifically state the phrase "in an absence of additionally added gasses" it also does not specifically state providing additional gasses. Again, applicant is not required to use the exact claim language in the specification. When read as a whole, the specification reasonably conveys to one of ordinary skill in the art that the feed gas can be provided in an absence of additionally added gasses.

The position set forth above is further supported by the Examiner's statements at page 3, lines 3-6 of the present action. In discussing the Harada disclosure (U.S. Patent No. 5,631,868) the Examiner states that because Harada describes a feed gas consisting of oxygen supplemented with CO or CO₂ and since this feed gas is the only gas provided to the ozone generator "the feed gas is introduced to the ozone generator in an absence of additionally added gases". The stated interpretation set forth was conveyed to the Examiner by the Harada disclosure even though Harada does not specifically state "an absence of any additionally added gasses". Accordingly, applicant's specification clearly conveys to one of reasonable skill in the art that the recited oxygen feed gas can be provided in an absence of additionally added gasses. Accordingly,

applicant respectfully requests withdrawal of the 35 U.S.C. § 112, first paragraph rejection of claims 1, 7, 12 and 25 in the Examiner's next action.

Applicant notes the Examiner's indicated allowability of claims 1-6 upon overcoming the § 112 rejection. As set forth above, independent claim 1 is sufficiently supported by the specification to satisfy the written description requirement. Accordingly, claims 1-6 are allowable.

Claims 7 and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Harada. Without admission as to the propriety of the Examiner's rejection, independent claim 7 and claims 8-11 which depend therefrom are cancelled.

Claims 12-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Harada in view of one or both of Mullee, U.S. Patent No. 6,306,564 and Ury, U.S. Patent No. 4,885,047. As amended, each of independent claims 12 and 25 recite providing a feed gas comprising 99.999% O₂ to an ozone generator in an absence of additionally added gasses. The amendment to claims 12 and 25 is supported by the specification at, for example, page 4, lines 14-17. As noted by the Examiner at pg. 6 of the present action under the heading Allowable Subject Matter, Harada does not disclose or suggest utilizing a feed gas comprising 99.999% oxygen, by volume. Not one of the additionally cited references disclose or suggest the claim 12 and 25 recited providing a feed gas comprising at least 99.999% O₂ (by volume) to

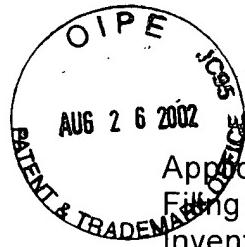
an ozone generator. Accordingly, independent claims 12 and 25 are allowable over the cited combinations of Harada, Mullee and Ury.

Dependent claims 13-24 and 26-35 are allowable over the cited combinations of Harada, Ury and Mullee for at least the reason that they depend from corresponding base claims 12 and 25.

For the reasons discussed above, claims 1-6 and 12-35 are allowable. Accordingly, applicant respectfully requests formal allowance of pending claims 1-6 and 12-35 in the Examiner's next action.

Respectfully submitted,

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Inventor Torek et al.
Assignee Micron Technology, Inc.
Group Art Unit 1765
Examiner Deo
Attorney's Docket No. MI22-1376
Title: Methods of Removing at Least Some of a Material From a Semiconductor Substrate

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VERSION WITH MARKINGS TO SHOW CHANGES MADE ACCOMPANYING
RESPONSE TO MAY 24, 2002 FINAL OFFICE ACTION

In the Claims

The claims have been amended as follows. Underlines indicate insertions and ~~strikeouts~~ indicate deletions.

Claims 7-11 are cancelled

12. (Amended) A method of removing at least some of a material from a semiconductor substrate, comprising:

providing a feed gas comprising 99.999% O₂ and less than or equal to 0.001% N₂ (by volume);

in an absence of additionally added gases, feeding the feed gas through an ozone generator to generate ozone from the feed gas;

forming a mixture of ozone and organic solvent vapors in a reaction chamber; and

contacting at least some of the ozone and solvent vapors with a material on a semiconductor substrate to remove at least some of the material from the semiconductor substrate.

25. (Amended) A method of removing at least some of a material from a semiconductor substrate, comprising:

providing a feed gas comprising 99.999% O₂ and less than or equal to 0.001% N₂ (by volume);

in an absence of additionally added gases, feeding the feed gas through an ozone generator to generate ozone from the feed gas;

forming a mixture of ozone and organic solvent vapors in a reaction chamber;

irradiating at least some of the ozone with ultraviolet light to form ozone fragments from the ozone; and

contacting at least some of the ozone fragments and solvent vapors with a material on a semiconductor substrate to remove at least some of the material from the semiconductor substrate.

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